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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/554,793	09/19/2000	Volker Zimmer	RDID0043US	1444

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EXAMINER

QUAN, ELIZABETH S

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 06/23/2003

17

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/554,793

Applicant(s)

ZIMMER, VOLKER

Examiner

Elizabeth Quan

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2003 and 04 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-5, 7 and 9-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-5, 7 and 9-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 16.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. Claims 2-5, 7, and 9-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Referring to claims 9 and 16, it appears from the drawings that the notch forms the sample application opening. The claim appears to recite that the sample application opening has its own boundaries and the notch has its own boundaries that extends into at least one edge of the sample application opening. The language is confusing. Does the sample application opening and notch each have its own boundaries such that their borders may not necessarily be the same or does the notch form the border of the sample application opening? Perhaps, the term "extends" describing the partial groove relative to the edge of the sample application opening confuses the matter. It is unclear how the partial groove extends into the edge.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 2-5, 9-14, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,399,316 to Yamada.

Referring to claims 4, 5, 9-14, and 16, Yamada discloses a device (10) for withdrawing samples of liquid for analytical elements (see ABSTRACT; FIGURE). The device (10) comprises a carrier (11), cover (17) with a surface that cooperates with a surface of the carrier (11) to form a capillary-active channel (21), second cover (24), and intermediate layer (12,13) positioned between the second cover (24) and carrier (11) (see FIGURE). The channel (21) has a sample application opening (22) defined by at least one edge (see FIGURE). At least one notch (15,16) in the form of a partial groove extends into the at least one edge of the sample application opening (22) of the channel (21) such that one side of the edge of the sample application opening (22) is at least partially interrupted by the at least one notch (15,16) facing the channel (21) opposite to the at least one notch (15,16) is exposed. A liquid sample is contacted with the edge of the sample application opening (22) adjacent to the notch (15,16) such that the liquid sample is immediately transported by capillary forces into the channel (21) (see ABSTRACT; FIGURE; SUMMARY OF THE INVENTION; COL. 5, lines 13-31; COL. 6, lines 64-68; COL. 7, lines 1-68; COL. 8, lines 1-9 and 14-36).

Referring to claim 3, according to Merriam-Webster Collegiate Dictionary, stagger is defined as to arrange in any of various zigzags, alternations, or overlappings of position or time, and alternations is defined as causing to alternate, which is defined as arranged first on one side and then on the other at different levels or points along an axial line or arranged one above or alongside the other. It is noted that the two notches (15,16) are arranged one above or alongside the other depending on the frame of reference and

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inherently arranged first on one side and then on the other at different levels or points along an axial line, as imperfections inherently exist.

Therefore, Yamada includes all the limitations in claims 2-5, 9-14, and 16.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,399,316 to Yamada in view of U.S. Patent No. 4,439,526 to Columbus.

Referring to claim 2, Yamada does not disclose at least two notches next to each other. However, in the field of capillary fluid flow, it is known to provide a plurality of access means to the capillary to facilitate fluid flow into the capillary channel. See, for example, Columbus, abstract; column 2, lines 29-46 and column 6, lines 63 through column 7, line 2. It would have been obvious to one of ordinary skill in the art to provide at least 2 notches (access means) at the entrance of the channel in the device of Yamada in order to facilitate fluid flow in the channel.

7. Claims 7 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,399,316 to Yamada in view of U.S. Patent No. 6,238,624 to Heller et al.

Referring to claims 7 and 15, Yamada does not disclose using oxidized aluminum for hydrophilization. Heller et al. disclose forming lawn type permeation layers by attaching bifunctional linear or polymeric hydrophilic molecules to a metal surface in fabricating a microelectronic device to carry out and control multi-step and multiplex molecular biological reactions in microscopic format, which are significant in clinical diagnostics (see ABSTRACT; COL. 16, lines 55-64). The preferred procedure for producing a lawn type structure involves derivatization of the metal microelectrode surface using aminopropyltriethoxy silane (APS) (see COL. 17, lines 13-15). APS provides a combined permeation and attachment layer with primary amine groups for covalent coupling of binding entities, especially oligonucleotides (see COL. 17, lines 17-19, 38, and 39). APS provides a high level of functionalization in terms of surface

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binding sites on slightly oxidized aluminum (see COL. 17, lines 20-22). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use oxidized aluminum for hydrophilization as in Heller et al. in the device of Yamada to provide a high level of surface binding sites to bind targeted entities in sample liquid diagnostics.

Response to Arguments

8. Applicant's arguments with respect to claims 2-5, 7, and 9-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They include one or more limitations in the claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Quan whose telephone number is (703) 305-1947. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (703) 308-4037. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


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Elizabeth Quan
Examiner
Art Unit 1743

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June 13, 2003


Jill Warden
Supervisory Patent Examiner
Technology Center 1700